

[April 29, 1957]

EMERGENCY PROCEDURES

The Cobalt of this source is so encapsulated that we cannot anticipate any hazard from spillage or loss of the active element. It is so mounted that there are no means of accidentally withdrawing the unit of the source, but conditions might arise in which the external radiation may be a definite hazard. In such a case the operators monitoring the area will immediately leave the building, locking the door and the gate to the security area. They will promptly notify Dr. Bushland or one of his delegates, C. L. Smith, A. H. Baumhover or A. J. Graham, and make sure that printed warnings are posted to prevent additional exposure.

The responsible entomologist will immediately telephone the ARS Radiological Safety Officer at Beltsville to describe the hazard and request instructions. No one will be permitted to re-enter the restricted area unless specifically authorized by M. E. Jefferson or another ARS Safety Officer with similar authority.

After discussing the situation over the telephone the ARS Radiological Safety Officer will decide whether someone from Beltsville should come to Orlando to take charge of repairs. He may suggest remedial measures to be tried by Dr. Bushland and his staff.

Three examples of possible difficulty and procedures for their correction are outlined below:

Case 1. Failure of the shutter to close:

The shipping plug will be reinserted and if necessary using tongs of minimum length, 24", lead bricks will be placed over the shutter opening until the radiation level at one meter does not exceed

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14 mr/hr. The well will be filled immediately to a minimum depth of 10' and the unit submerged as promptly as possible. NOTE: Be sure to remove drain plug before submerging. Removing the bricks, break the wire seal and remove the shutter assembly. These operations will be continuously monitored and if necessary bricks replaced over the shipping plug. The repaired shutter assembly will be reinstalled and the unit raised, the wire seal replaced before returning to the facility.

Case 2. If the irradiation canister jams and cannot be removed:

Close shutter and proceed as above. When unit is fully submerged, remove shutter assembly, break second wire seal and remove source retainer. If canister cannot be removed at this point place temporary source rack on bottom and move source units to this rack monitoring at all times. NOTE: Exercise care in moving source units to be sure that the minimum radiation level is maintained at surface. Canister and source container may now be removed, or if necessary the cask may be raised for repair.

Case 3. Shutter stuck and cannot be opened:

Proceed as in case one, submerging unit in minimum depth of ten feet of water. Break wire seal, remove shutter assembly, insert shipping plug. Upon reassembling, remove shipping plug before attempting to replace shutter assembly. After assembly is in place return shipping plug and close shutter before removal from water,

In an emergency, the well will be killed immediately to a minimum depth of 10' and the unit submerged as promptly as possible. NOTE
Be sure to remove drain plug before submerging. Remove the
bricks, break the wire seal and remove the shutter assembly.
These operations will be continuously monitored and if necessary
bricks replaced over the shipping plug. The repeated shutter
assembly will be reinstalled and the unit raised, the wire seal
replaced before returning to the facility.

Case 2. If the instrumentation control tank and control are removed:

Shutter assembly and control are removed. When unit is fully submerged,
remove shutter assembly, break second wire seal and remove control
retainer. If control cannot be removed at this point place fast-
acting source rack on bottom and move source units to this rack
maintaining at all times. NOTE Exercise care in moving source
units to be sure that the minimum radiation level is maintained
at surface. Control and source container may now be removed
or if necessary the tank may be raised for repair.

Case 3. Shutter stuck and cannot be opened:

Proceed as in Case one, attempting unit in minimum depth of ten
feet of water. Break wire seal, remove shutter assembly, insert
shipping plug. Upon reassembling, remove shipping plug before
attempting to replace shutter assembly. After assembly is in place
return shipping plug and close shutter before removal from water.

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restore wire seal before returning to facility.

In any emergency a complete report of measures taken, radiation levels encountered, time required and badge and chamber readings shall be forwarded to the Radioisotopes Committee as soon as the data are complete.

Posted at Orlando, Florida April 29, 1957.

M. E. Jefferson
M. E. Jefferson
ARS Radiological Safety Officer

Concurrence:

These instructions are effective immediately.

R. C. Bushland
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Entomologist in Charge

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Posted at Orlando, Florida April 29, 1957.

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AND Radioisotope Safety Officer

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Radiologist in Charge